

REMARKS

This application has been reviewed in light of the Office Action dated July 14, 2004. Claims 41-43 and 49-54 are presented for examination. Claims 44-48 have been canceled, without prejudice or disclaimer of subject matter. Claims 41-43, 49, and 51-54 have been amended to define more clearly what Applicant regards as his invention. Claims 41 and 51-54 and are in independent form. Favorable reconsideration is requested. The canceled claims will not be further addressed herein.

Claims 41-43 and 49-54 were objected to under 37 C.F.R. § 1.75 (a) and (d)(1) as failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his invention or discovery. In particular, the Examiner considers that lines 8 and 9 of Claim 41 render the claim ambiguous.

Applicant has amended Claim 41, among other things, to recite --calculating a statistic from the average pixel values that are within a certain range, including the coordinates in the object area determined in said determining step--. Applicant believes this amendment obviates the objection to Claim 41. The other independent claims have been amended similarly. Accordingly, Applicant respectfully requests the withdrawal of the objection to Claims 41-43 and 49-54.

Claims 41-43 and 49-54 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Applicant has amended Claim 41¹ to ensure that it fully conforms to the requirements of Section 112, first paragraph, with special attention to the points raised in

¹/The Office Action refers to Claim 1 in discussing the rejection. Applicant assumes the Examiner intended to state Claim 41.

paragraph 3 of the Office Action. Applicant submits that the features of Claim 41 are fully supported by the specification, as filed. The other independent claims have been amended similarly. Accordingly, Applicant respectfully requests the withdrawal of the objection to Claims 41-43 and 49-54

Claims 42 and 43/42, were rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

Claim 42 has been carefully reviewed and amended as deemed necessary to ensure that it conforms fully to the requirements of Section 112, second paragraph, with special attention to the points raised in paragraph 4 of the Office Action. Specifically, Claim 42 has been amended to recite that --an object area is extracted on the basis of an area through which radiation passes and an area adjacent thereto, wherein the adjacent area is within a given distance of the area through which radiation passes--. It is believed that the rejection of Claim 42 under Section 112, second paragraph, has been obviated. Applicant submits that Claim 43, which depends from Claim 42, also conforms fully to the requirements of Section 112, second paragraph. Accordingly, Applicant respectfully requests that the rejection under Section 112, second paragraph, be withdrawn.

Claims 41, 49, and 51-53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,732,149 (*Kido et al.*) and U.S. Patent No. 4,873,437 (*Nakajima*).

As shown above, Applicant has amended independent Claims 41 and 51-54 in terms that more clearly define what he regards as his invention. Applicant submits that these amended independent claims, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

The aspect of the present invention set forth in Claim 41 is a gradation conversion method for radiation image data of an object radiographed by a radiation photographing apparatus. The method includes extracting an object area from the radiation image data, calculating average pixel values, and determining coordinates of the object area based on the average pixel values calculated in the calculating step. The method also includes calculating a statistic from the average pixel values that are within a certain range, including the coordinates in the object area determined in the determining step, forming a gradation conversion curve based on the statistic calculated in the statistic calculating step, and converting the radiation image data by using the gradation conversion curve formed in the forming step. The pixels in the object area are scanned in a y-axis direction to calculate the average pixel values and a coordinate at which the average pixel values show a maximum or minimum is determined as a y-coordinate of the coordinates.

Among other important features of Claim 41 is that pixels in the object area are scanned in a y-axis direction to calculate the average pixel values and a coordinate at which the average pixel values show a maximum or minimum is determined as a y-coordinate of the coordinates. That is, pixels in an object area are projected in a y-direction so as to add the pixel values to obtain average pixel values so that the coordinates of the object area is determined from the average pixel values. Thus, even if the width of the object area differs, it is possible to obtain an area with high pixel values (high intensity area) and an area with low pixel values (low intensity area).

Kido et al. relates to an irradiation field region extracting apparatus for radiation images. In the *Kido et al.* apparatus, pixels are merely projected, and then the coordinates are determined by a sum of the projected pixel values. Accordingly, the *Kido et al.*

apparatus encounters the problem that the sum of the pixel values will vary depending on whether the width of the object area differs.

Applicant has found nothing in *Kido et al.* that would teach or suggest that pixels in the object area are scanned in a y-axis direction to calculate the average pixel values and a coordinate at which the average pixel values show a maximum or minimum is determined as a y-coordinate of the coordinates, as recited in Claim 41.

Accordingly, Applicant submits that Claim 41 is clearly patentable over *Kido et al.*, taken alone.

Nakajima is cited by the Examiner as remedying the deficiencies of *Kido et al.*, and in particular, disclosing that a gradation processing condition can be represented by a gradation conversion curve. Applicant, however, has found nothing in *Nakajima* that would teach or suggest that pixels in the object area are scanned in a y-axis direction to calculate the average pixel values and a coordinate at which the average pixel values show a maximum or minimum is determined as a y-coordinate of the coordinates, as recited in Claim 41.

Applicant submits that a combination of *Kido et al.* and *Nakajima*, assuming such combination would even be permissible, would fail to teach or suggest that pixels in the object area are scanned in a y-axis direction to calculate the average pixel values and a coordinate at which the average pixel values show a maximum or minimum is determined as a y-coordinate of the coordinates, as recited in Claim 41.

Accordingly, Applicant submits that Claim 41 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 51, 52, and 53 are program, computer-readable storage medium, and apparatus claims respectively corresponding to method Claim 41, and are believed

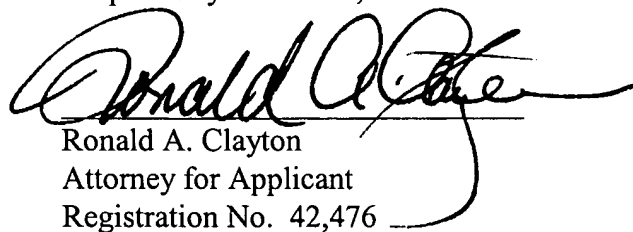
to be patentable over *Kido et al.* and *Nakajima* for at least the same reasons as discussed above in connection with Claim 41. Additionally, independent Claim 54 includes features similar to those discussed above in connection with Claim 41. Accordingly, Claim 54 is believed to be patentable for reasons substantially similar as those discussed above in connection with Claim 41.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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